## Domestic Nuclear Detection Office (DNDO)

Industry Day
Information Briefing
on the
Illicit Trafficking Radiation
Assessment Program + 10
(ITRAP+10)





## 2009 EU CBRN Task Force Policy Package

## List of measures to mitigate the RN risk.

#### 1. Prevention

- Control of sources
- Exchange information (reporting on loss of sources, early warning systems, ...)
- Physical protection of sources

#### 2. Detection

- Scenario development on use of detection technologies
- Criminal investigation of lost sources
- Training of first line officers
- Certification of equipment: standards for performance and testing

#### 3. Response

- Emergency Response Plans
- Forensics

Ref: http://ec.europa.eu/home-affairs/summary/docs/com\_2009\_0273\_en.pdf



## ITRAP Then and Now

#### 1997- 2000: Illicit Trafficking Radiation Assessment Program (ITRAP)

- IAEA suggested a program implemented by Austria, 1997-2000
- Testing conducted in Seibersdorf, Austria in 1998.
  - 14 fix-installed monitoring systems
  - 24 Pocket Type and Handheld Instruments
- Final Report ITRAP Illicit Trafficking Radiation Detection Assessment Program (undated)

#### 2009 – 2012: Illicit Trafficking Radiation Assessment Program+10 (ITRAP+10)

- Re-evaluate equipment and technology
- EU Sponsored 3-year program, August 2009 August 2012
- Testing to the radiological parts of Standards (IEC, and ANSI) and to IAEA guidelines.
- Testing to be conducted by the JRC at Ispra, Italy in 2011.
  - Also Call for Interest is out for participation by other European laboratories.
- Testing to also be conducted at GRaDER<sup>SM</sup> laboratories ORNL, PNNL, and SRNL
- JRC calls for expressions of interest.
  - Equipment:
    - http://ted.europa.eu/udl?uri=TED:NOTICE:86876-2010:TEXT:EN:HTML&src=0
  - · Laboratories:
    - http://ted.europa.eu/udl?uri=TED:NOTICE:86877-2010:TEXT:EN:HTML&src=0
  - Experts:
    - <a href="http://ted.europa.eu/udl?uri=TED:NOTICE:86878-2010:TEXT:EN:HTML&src=0">http://ted.europa.eu/udl?uri=TED:NOTICE:86878-2010:TEXT:EN:HTML&src=0</a>



## ITRAP+10 Classes of Equipment

### The 9 classes and corresponding standards

Equipment Category	IEC Standards	ANSI Standards
Radiation Portal Monitors	IEC 62244	ANSI N42.35
Spectrometric Radiation Portal Monitors	IEC 62484	ANSI N42.38
Personal Radiation Detectors	IEC 62401	ANSI N42.32
Spectrometric Personal Radiation Detectors	IEC 62618 (draft)	ANSI N42.48
Radioisotope Identifiers	IEC 62327	ANSI N42.34
Gamma Search Detectors	IEC 62533	ANSI N42.33
Neutron Search Detectors	IEC 62534	NA
Portable Radiation Scanners- Backpack Type	IEC 62694	ANSI N42.53 (draft)
Mobile Detection Systems (to be conducted by DNDO only)	NA	ANSI N42.43



# ITRAP+10 Objectives

- Provide scientific and technical data on COTS RN detection systems to Policy Makers by conducting a survey of available technologies.
- Provide access to the best technology based on repeatable and defensible test process and results from equipment testing.
- Promote new R&D efforts.
- Promote harmonization of standards (ANSI, IEC), and guidelines (IAEA).
- Improve exchange of information between US, EU and other entities.
- Promote the creation and/or expand the capabilities of facilities, where equipment can be formally tested.
- Provide manufacturers with recommendations to improve performance, reliability and user-friendliness of the equipment.



## JRC and DNDO Collaboration

#### Test Articles

- JRC Testing limited to EU manufactured COTS systems
- DNDO complements the JRC testing by being open to all COTS systems

#### Expansion of Categories

- Mobile System Category added for DNDO.
- Total of 9 Equipment Categories

#### Standards expanded to include both IEC and ANSI standards

- Opportunity to Harmonize standards
- Test to most restrictive standards when compatible
- Test both when not compatible
- Testing in the US will include testing to the environmental part of the standards.

#### Resources

- DNDO and JRC complement resource requirements
- Collaborative teams to write test designs and conduct the tests
- Produce a joint document at close of test campaigns



## Other Interested Parties

Other US and international agencies are interested and participating in ITRAP+10

- DOE/NA25: Second Line of Defense (SLD)
- IAEA

Their participation includes but is not limited to

- Review of the test plan and procedures
- Possible participation during test execution
- Review of the data and final reports.



## How ITRAP+10 benefits manufacturers

- Opportunity to learn, for minimal cost (providing instruments, shipping and training), how their equipment performs against the radiological parts of the standards. ITRAP+10 will assume the cost of testing.
- Manufacturers will be provided with a personalized report that will include an analysis of the performance of their systems and feedback from the users. These reports will be provided within two months of the close of the corresponding testing event. The personalized report will not state whether the equipment passed or failed the standards.
- Manufacturers will receive the raw data files extracted from their instruments during the data collection activities. The raw data set will be limited to the testing against the radiological part of the standards.
- Promote recognition of the equipment in the international arena.

However, the ITRAP+10 program SHALL NOT be used as an endorsement for instruments.



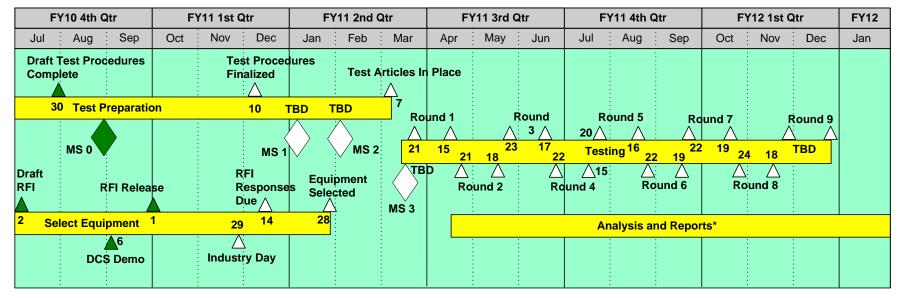
## How would manufacturers participate in ITRAP+10?

Manufacturers wishing to participate in ITRAP+10 should respond to either the JRC's Call for Expression of Interest if the equipment is manufactured in the European Union or the DNDO's Request for Information otherwise.

- JRC calls for expressions of interest.
  - http://ted.europa.eu/udl?uri=TED:NOTICE:86876-2010:TEXT:EN:HTML&src=0
- DNDO Request for Information.
  - https://www.fbo.gov/index?s=opportunity&mode=form&id=f45f5ad060190323811b68e42e98 0244&tab=core& cview=0
- Manufacturers should submit their proposals no later than 14 December 2010.
- To facilitate the proper review of their equipment, manufacturers are encouraged to provide as much of the information requested as possible.
- To facilitate scheduling, manufacturers should clearly state possible delivery times.



# Preliminary Schedule



\* Final report complete NLT August 2012



## Current Status of ITRAP+10

- Define Formal Test Objectives that can be directly tied to the EU and US respective mandates.
  - Done
- Establish international working groups whose responsibility is to ensure the tests are designed and conducted correctly
  - Done
- EU Call for Expression of Interest for equipment, laboratories and experts
  - Published, final responses due 14 Dec 10
  - Basis for selection of EU test articles
- US Request for Information (RFI) for equipment.
  - Published, final responses due 14 Dec 10
  - Basis for selection of non-EU test articles, although EU test articles can be selected
- Selection of Test Articles
  - To be coordinated at joint meeting in Jan 2011
  - Based on response, companies will be invited to provide test articles
  - All test items will preferentially be COTS





# Homeland Security